CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 99-056
NPDES PERMIT NO. CA0029106

WASTE DISCHARGE REQUIREMENTS FOR:

GWF POWER SYSTEMS COMPANY, INC.
EAST THIRD STREET (SITE I) POWER PLANT
PITTSBURG, CONTRA COSTA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, hereinafter Board, finds that:

1. GWF Power System Company, Inc., East Third Street (Site I) Power Plant, hereinafter referred to as the Discharger, submitted an NPDES Permit application (Report of Waste Discharge) dated October 5, 1998 for reissuance of NPDES Permit No. CA 0029106.

2. The discharge of wastewater from the Discharger is currently regulated by Waste Discharge Requirements, Order No. 94-035, adopted by the Board on March 16, 1994. This Order expired on March 16, 1999, and the Executive Officer extended it by letter dated January 12, 1999.

3. The Discharger generates 18.2 megawatts of electric power. All wastewater generated by the facility, including storm water, discharges from a single outfall to New York Slough.

4. The U.S. Environmental Protection Agency (US EPA) and the Board have classified this Discharger as a minor discharge.

5. The description of waste discharged from the site is based on information contained in the Report of Waste Discharge, recent self-monitoring reports, and other relevant information provided by the Discharger.

   Waste 001 consists of an average of 94,000 gallons per day (gpd) of steam condensate, demineralizer wastewater, cooling tower blowdown, equipment washdown waters, and stormwater runoff. The Discharger uses a bromine based treatment for microorganism control. Waste 001 discharges to New York Slough, a water body tributary of Suisun Bay (Latitude 38°02'00" and Longitude 120°52'15").

6. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on June 21, 1995, and approved by the State Water Resources Control Board (State Board) and the Office of Administrative Law on July 20, and November 13, respectively, of 1995. The Basin Plan identifies beneficial uses and water quality objectives for surface waters in the region, as well as effluent limitations and discharge prohibitions

intended to protect those uses. This Order implements the plans, policies, and provisions of the Board's Basin Plan.

7. The State Board adopted the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (hereinafter the Thermal Plan) on September 18, 1975. The temperature limitation contained in this Order for the cooling tower discharge are in accordance with the Thermal Plan. Because of the location and nature of this discharge, Waste 001 is classified as a thermal waste.

8. We are awaiting guidance from the State Water Resources Control Board and US EPA on the effect of the Water Quality-Limited Waterbodies (303[d]) list upon this permit action. This permit follows the Basin Plan; however, it maybe reopened and revised to reflect the future guidance.

9. Regional Board may, in accordance with Section 316(a) of the Federal Water Pollution Control Act of 1972, and subsequent federal regulations including 40 CFR 122, grant an exception to Specific Water Quality Objectives in the Thermal Plan.

10. The beneficial uses of New York Slough, Suisun Bay, and contiguous waters are:

    a. Agricultural Supply
    b. Ocean Commercial and Sport Fishing
    c. Estuarine Habitat
    d. Groundwater Recharge
    e. Industrial Service Supply
    f. Fish Migration
    g. Municipal and Domestic Supply
    h. Navigation
    i. Industrial Process Supply
    j. Preservation of Rare and Endangered Species
    k. Water Contact Recreation
    l. Non-Contact Recreation
    m. Fish spawning
    n. Wildlife Habitat

11. Effluent limitations and toxic effluent standards established pursuant to Sections 301, 304, 306, and 307 of the Federal Water Pollution Control Act and amendments thereto are applicable to the discharge.

12. Effluent limitation guidelines requiring the application of the best practicable control technology currently available (BPT) and best available technology economically achievable (BAT) have been promulgated by the US EPA on November 19, 1982 and amended on July 8, 1983 for the Steam Electric Power Generating Point Source Category (40 CFR 423). Effluent limitations of this Order are based on these guidelines, the Basin Plan, other State Plans and policies, current plant performance and best professional judgment. The limitations are considered to be those attainable by BAT in the judgment of the Board, the

national toxics rule (40 CFR 131.36), and the narrative water quality objectives contained in the Basin Plan.

13. The water quality objective for copper included in the Reasonable Potential Analysis is based on 4.9 mg/l copper as an interpretation of the narrative toxicity objective in the Basin Plan, based on best professional judgment. From a technical standpoint, 4.9 mg/l is currently the best available criterion that is protective of the most sensitive designated use of San Francisco Bay marine waters with respect to copper: habitat for aquatic organisms. The criterion is based on the Regional Board's study to develop a site-specific objective for copper, which employed the "water effect ratio" approach developed by the US EPA. This approach provides a measure of the binding capacity of natural waters (dependent on particulate matter) relative to the binding capacity of reference waters (filtered oceanic water). The study and associated staff analysis are described in a September 25, 1992, Board staff report entitled "Revised Report on Proposed Amendment to Establish a Site Specific Objective for Copper for San Francisco Bay."

14. The reissuance of waste discharge requirements for this discharge is exempt from the provisions of Chapter 3 (commencing with Section 21100 of Division 13) of the Public Resources Code (CEQA) pursuant to section 13389 of the California Water Code.

15. The Board notified the Discharger and interested agencies and persons of its intent to reissue waste discharge requirements, and has provided them with an opportunity for a public hearing and to submit their written views and recommendations.

16. The Board, in a public hearing, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that the Discharger, in order to meet the provisions of Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. Prohibitions

1. The discharge of Waste 001 at any point at which the wastewater does not receive a minimum initial dilution of at least 10:1 is prohibited.

2. The discharge of polychlorinated biphenyl compounds such as those commonly used for transformer fluid is prohibited.

3. Chemicals used in any metal components cleansing, flushing, washdown, algae control, or corrosion and deposition inhibition shall not contain copper, zinc, chromium or other heavy metal constituents.

4. Discharges of water, materials, or wastes other than those authorized by this NPDES permit, to a storm drain system or waters of the State are prohibited.

5. The discharge of all toxic and deleterious substances, above those levels which can be achieved by a program acceptable to the Board, is prohibited.

B. Effluent Limitations

1. The discharge of Waste 001 containing constituents in excess of the following limits is prohibited:

Constituent	Units	30-Day Average	Daily Maximum
Total Suspended Solids	lbs/day	23.52	35.28
	kg/day	10.69	16.04
	mg/l	30	45
Oil and Grease	lbs/day	7.84	15.68
	kg/day	3.56	7.13
	mg/l	10	20
Settleable Matter	ml/l-hr	0.1	0.2

2. The discharge of Waste 001 containing constituents in excess of the following limits is prohibited:

Constituent	Units	Daily Maximum
Copper	µg/l	36
Mercury[1]	µg/l	0.21
Nickel	µg/l	53
Zinc	µg/l	562

[1] The daily limitation may be met as a four-day average at the discretion of the Discharger. If compliance is to be determined based on a four-day average, then four separate 24-hour composite samples shall be obtained over four consecutive days, and the concentration results for each composite sample shall be reported, as well as the average of the four.

3. Waste 001 shall not have a pH less than 6.0 nor greater than 9.0.

4. The Maximum temperature of Waste 001 shall not exceed 86°F.

5. Waste 001, as discharged, shall meet the following acute toxicity limitation:

a. The survival of test fish[1] in parallel 96-hour flow-through bioassays of Waste 001 as discharged shall be an eleven sample median[2] value of not less than 90 percent

survival, and an eleven sample 90 percentile[3] value of not less than 70 percent survival.

[1] Test fish as specified by the Executive Officer in the Self-Monitoring Program.

[2] Any bioassay test showing survival of 90 percent or greater is not a violation of this limit. A bioassay test showing survival of less than 90 percent represents a violation of this effluent limit, if five or more of the past ten or less bioassay tests show less than 90 percent survival.

[3] Any bioassay test showing survival of 70 percent or greater is not a violation of this 90 percentile value limit. A bioassay test showing survival of less than 70 percent represents a violation of this effluent limit, if one or more of the past ten or less tests shows less than 70 percent survival.

C. Receiving Water Limitations

1. The discharge shall not cause the following conditions to exist in waters of the State at any place:

   a. floating, suspended or deposited macroscopic particulate matter or foam;

   b. alteration of turbidity or apparent color beyond present natural background levels;

   c. visible, floating, suspended or deposited oil or other products of petroleum origin;

   d. bottom deposits or aquatic growths; and

   e. toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl or render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.

2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:

   a. Dissolved oxygen: 7.0 mg/l minimum. The median dissolved oxygen concentrations for any three consecutive samples shall not be less than 80 percent of the dissolved oxygen content at saturation.

   b. Dissolved sulfide: 0.1 mg/l maximum.

c.	pH:	The pH shall not be depressed below 6.5 nor raised above 8.5, nor caused to vary from normal ambient pH levels by more than 0.5 units.
d.	Un-ionized ammonia (as N):	0.025 mg/l Annual Median, and 0.16 mg/l Maximum at any time.

3. No discharge shall cause a surface water temperature rise greater than 4°F above the natural temperature of the receiving waters at any time or place.

4. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or State Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the Board will revise and modify the Order in accordance with such standards.

D. Provisions

1. The Discharger shall comply with all provisions of this permit upon its adoption by the Board except as noted below.

2. This permit may be re-opened to include effluent limits for other toxic pollutants if monitoring results of these pollutants indicate that there may be reasonable potential of exceeding the applicable site-specific water quality objectives and/or a threat of impacts to the water quality or beneficial uses of the receiving water and San Francisco Bay.

3. The Discharger shall prepare a detailed proposal to study the thermal impacts of its discharge on the receiving water body. The proposal shall be submitted to the Executive Officer for approval by October 1, 1999. The proposal shall outline the appropriate tasks with completion date for each task.

4. Neither the discharge nor its treatment shall create a nuisance or pollution as defined in Section 13050 of the California Water Code.

5. The Discharger shall comply with the attached Self-Monitoring Program as adopted by the Board and as may be amended by the Board pursuant to US EPA regulations 40 CFR 122.62, 122.63, and 124.5.

6. The Discharger shall comply with the attached Standard Provisions and Reporting Requirements of August 1993.

7. The Discharger shall update its Storm Water Pollution Prevention Plan (SWPPP) not later than October 1, 1999, and submit to the Executive Officer for approval. The SWPPP shall cover the entire facility owned and operated by the Discharger. It shall describe the

management and handling of storm water runoffs from the facility, and appropriate measures taken to prevent contamination of storm water or discharge of pollutants with the stormwater.

8. The Discharger shall update, and submit to the Executive Officer for approval, a contingency plan as required by Board Resolution No. 74-10, not later than October 1, 1999. Upon approval, the contingency plan should be implemented within 30 days.

9. All applications, reports, or information submitted to the Board shall be signed and certified pursuant to US EPA regulations (40 CFR 122.41k).

10. In the event of any change in control or ownership of land or waste, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be forwarded to the Regional Board. Proper requirements in the Standard Provisions and Reporting Requirements should be followed.

11. Pursuant to the US EPA regulation 40 CFR 122.42(a) the Discharger must notify the Board as soon as it knows or has reason to believe (1) that they have begun or expect to begin, use or manufacture a toxic pollutant not reported in the permit application, or (2) a discharge of toxic pollutant not limited by this permit has occurred, or will occur, in concentrations that exceed the specified limits in 40 CFR 122.42(a).

12. This permit may be modified prior to the expiration date to include effluent limitations for toxic constituents determined to be present in significant amounts in the discharge.

13. This Order shall serve as a National Pollutant Discharge Elimination System permit pursuant to Section 402 of the Federal Water Pollution Control Act, or amendments thereto, and shall take effect at the end of ten days from the date of hearing provided the US EPA Regional Administrator has no objections.

14. This Order expires on July 21, 2004, and the Discharger must file a Report of Waste Discharge in accordance with Title 23, California Administrative Code, not later than 180 days in advance of such date as application for the reissuance of waste discharge requirements.

I, Loretta K. Barsamian, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on July 21, 1999.

Loretta K. Barsamian

Loretta K. Barsamian
Executive Officer

Attachments:

A. Location Map
B. Water Process Flow Diagram
C. Self-Monitoring Program, Parts A and B
D. Standard Provisions, and Reporting Requirements dated August 1993

Attachment A

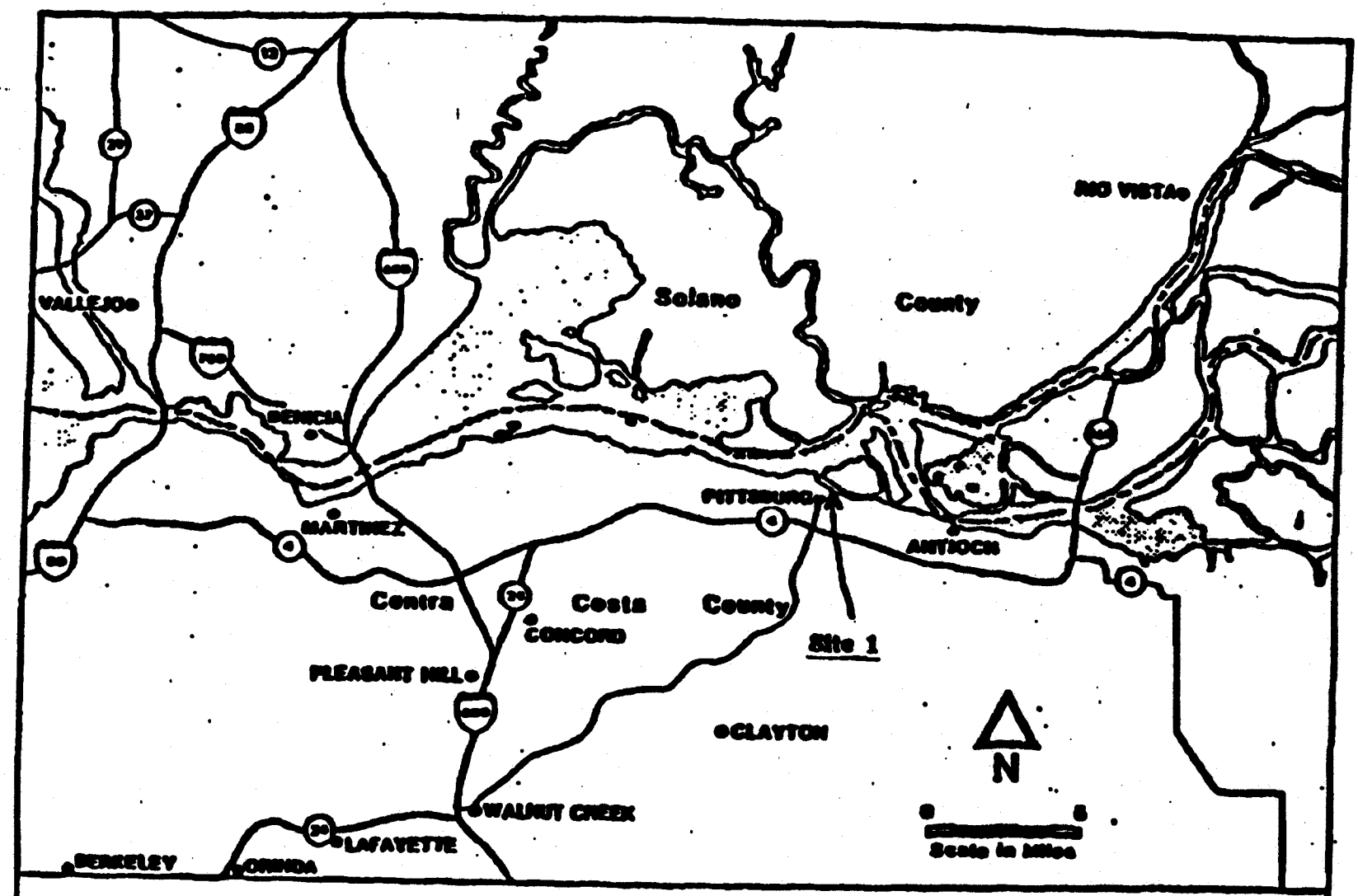


FIGURE 1: General location of East 3rd St. facility in Contra Costa County.

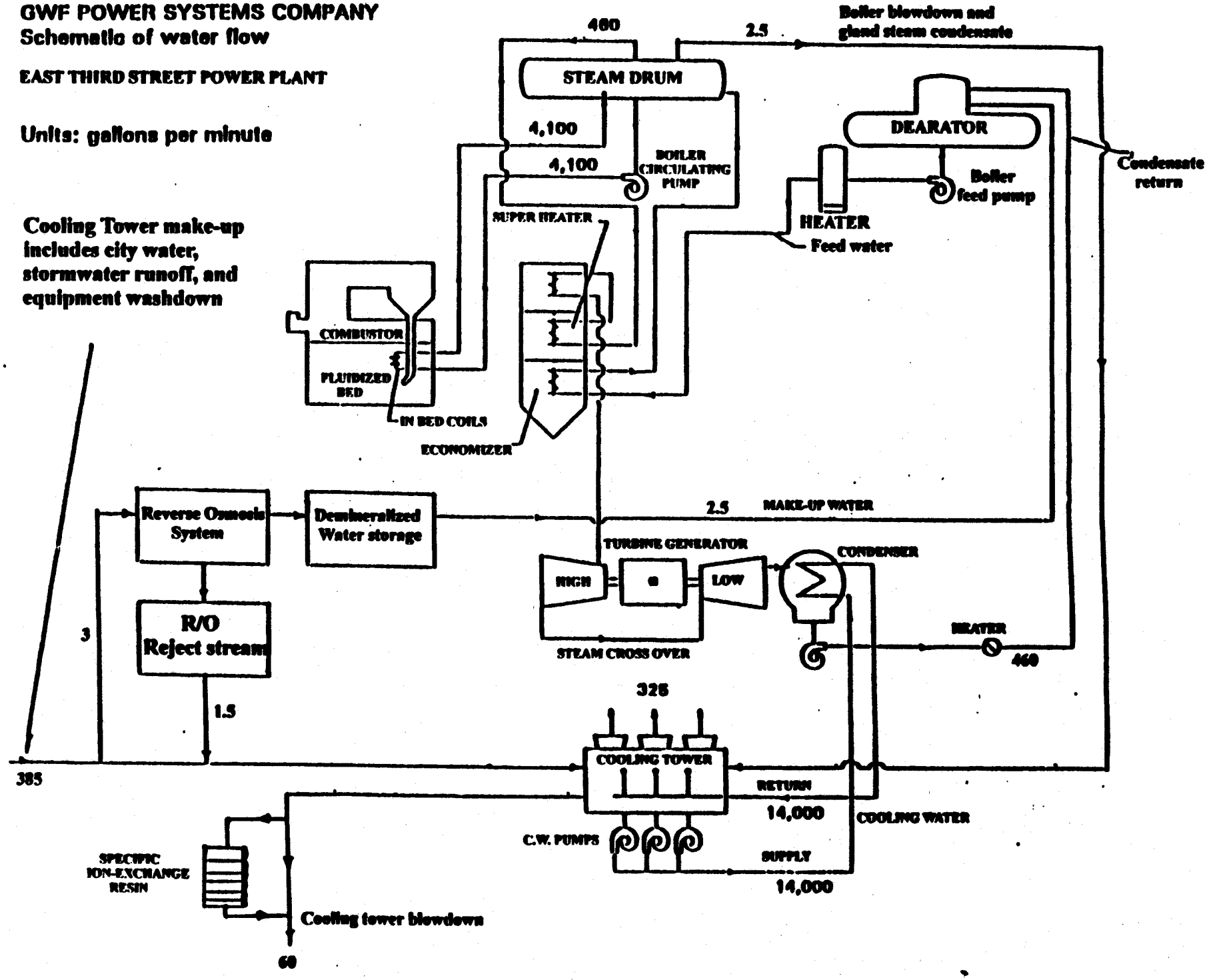
Attachment B

GWF POWER SYSTEMS COMPANY
Schematic of water flow

EAST THIRD STREET POWER PLANT

Units: gallons per minute

Cooling Tower make-up includes city water, stormwater runoff, and equipment washdown



Attachment C

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

FOR

GWF POWER SYSTEMS COMPANY, INC.
EAST THIRD STREET (SITE I) POWER PLANT
PITTSBURG, CONTRA COSTA COUNTY

NPDES NO. CA 0029106

ORDER NO. 99-056

Consists Of

Part A (Dated August 1993)

and

Part B

PART B

I. Description of Sampling Stations

A Effluent

Station	Description
E-001	At any point in the Waste 001 outfall from the plant facilities between the discharge point to the New York Slough and the point at which all waste tributaries to that outfall are present.

B. Receiving Water

Station	Description
C-1	300 feet upstream from the point of discharge, equidistant from the shoreline with that of the diffuser.
C-2	300 feet downstream from the point of discharge, equidistant from the shoreline with that of the diffuser.
C-3	At a point in New York Slough, located right above the East Third Street effluent diffuser and 2 feet below water surface.

II. Schedule of Sampling, Analysis & Observations

A. The schedule of sampling and analysis shall be that given in attached Table 1.

B. Sample collection, storage, and analysis shall be performed according to 40 CFR 136 and amended versions thereto, or other methods approved and specified by the Board.

III. Reporting

A. Self-Monitoring Reports shall be prepared monthly and shall be received by the Regional Board by the fifteenth day of each month, unless no discharge has occurred in the preceding month.

B. An annual report which contain information as prescribed in Provision F.5 of Part A of this Self-Monitoring Program shall be submitted to the Regional Board by January 30 of each year.

C. The Discharger shall retain and submit, when required, the following information concerning the monitoring program for organic and metallic pollutants.

   a. Description of sample stations, times and procedures.

   b. Description of sample containers, storage, and holding time prior to analysis.

   c. Quality assurance procedures together with any test results for replicate samples, sample blanks, and any quality assurance tests, and the recovery percentages for internal controls and surrogates.

I, Loretta K. Barsamian, Executive Officer, hereby certify that the following Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in the Regional Board Order No. 99-056.

2. Is effective on July 21, 1999.

3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the Discharger and revisions may be ordered by the Executive Officer or Regional Board.

Loretta K. Barsamian
Executive Officer

Attachments:
Table 1

TABLE 1

SCHEDULE OF SAMPLING, MEASUREMENTS, AND ANALYSIS

Station	Constituents	Unit	Type of Sample	Frequency of Analysis
E-001	Flow	gpd	Continuous	Continuous
	Settleable Matter	ml/l/hr	Grab	Monthly
	Oil & Grease	mg/l	Grab	Monthly
	TSS	mg/l	Composite	Monthly
	pH (1)	pH Unit	Continuous	Continuous
	Temperature	degree F	Continuous	Continuous
	Chromium(VI)	µg/l	Composite	Quarterly
	Copper	µg/l	Composite	Monthly
	Cyanide(2)	µg/l	Composite	Quarterly
	Lead	µg/l	Composite	Quarterly
	Mercury	µg/l	Composite	Monthly
	Nickel	µg/l	Composite	Monthly
	Silver	µg/l	Composite	Quarterly
	Zinc	µg/l	Composite	Monthly
	Acute Bioassay 96-Hour Toxicity(3)	% Survival	Flow through	Monthly
	All Applicable Standard Observations			Each Occurrence of Discharge

TABLE 1 - Continued

Station	Constituents	Unit	Type of Sample	Frequency of Analysis
C-1 & C-2	pH	pH Unit	Grab	Twice/year
	D.O.	mg/l % Satn	Grab	Twice/year
	Sulfides	mg/l	Grab	Twice/year
	Un-ionized Ammonia (as N)	mg/l	Grab	Twice/year
	Temperature(4)	degree F		Twice/year
C-3	Temperature(5)	degree F		Twice/year

All sampling and testing shall follow appropriate U.S. EPA approved methods, or equivalent alternatives that are approved by the Executive Officer.

Legend:

Frequency of Analysis

Daily = Once each day
Monthly = Once each month
Quarterly = Once each quarter

Footnote:

(1) Daily minimum and maximum shall be reported.
(2) The Discharger may, at their options, analyze for cyanide as Weak Acid dissociable Cyanide using protocols specified in Standard Method No. 4500-CN-I, latest edition.
(3) Three-spin stickleback and rainbow trout (or fathead minnow) shall be tested pursuant to Effluent Limitation B.5
(4) Temperature of C1 and C2 are considered the natural temperature of the receiving waters as defined in Section C3 of the permit.
(5) Temperature of C3 is considered the surface water temperature as defined in Section C3 of the permit.